

In the Claims:

1. (currently amended) A method of ~~recognising~~recognizing an image, comprising the steps of utilizing a computer or processor to:
  - a. processing process the image to provide an image set containing a plurality of different processed images which are derived from the original image to be recognized;
  - b. combining combine the processed images in the image set;
  - c. transforming transform the data space occupied by the processed images in the image set;
  - d. generating generate, from the image-set represented in the transformed data space, an image key representative of the image; and
  - e. comparing compare the image key with at least one previously stored image key of a known image.
2. (original) A method according to claim 1, wherein step a. includes extracting image features including at least one of edges, lines, wavelets, gradient components, curvature components and colour components.
3. (previously presented) A method according to claim 1, wherein step b. is carried out prior to step c.
4. (previously presented) A method according to claim 1, wherein step c. is carried out prior to step b.
5. (previously presented) A method according to claim 1, wherein step e. comprises comparing the image key with just one previously stored image key, to verify the identity of the image.

6. (previously presented) A method according to claim 1, wherein step e. comprises comparing the image key with a plurality of previously stored image keys, to identify the image.

7. (original) A method according to claim 6, comprising the further step of sorting the results of the comparison in step e. to produce a list of potential matches with previously stored image keys.

8. (previously presented) A method according to claim 6, wherein step e. is carried out using a Euclidean distance metric (the L2 norm), mahalanobis distance metric or a cosine distance metric.

9. (previously presented) A method according to claim 1, including the step prior to step a. of rotating and/or positioning the image to a predetermined orientation and/or position and/or depth normalisation.

10. (previously presented) A method according to claim 1, including a step prior to step b. of normalising data prior to combination.

11. (previously presented) A method according to claim 1, wherein said image is obtained from a camera.

12. (previously presented) A method according to claim 1, wherein said image comprises 3D data.

13. (previously presented) A method according to claim 1, wherein said image comprises 2D data.

14. (previously presented)) A method according to claims 12, wherein said image comprises a registered 2D-3D image pair.

15. (previously presented) A method according to claim 1, wherein step c. is carried out by a Principal Component Analysis method.

16. (previously presented) A method according to any of claims 1 to 14, wherein step c. is carried out by Fisher's Linear Discriminant Analysis method.

17. (previously presented) A method according to claim 1, wherein said image is an image of a face.

18. (previously presented) A method according to claim 1, wherein said image is an image of a human face.

19. (previously presented) A method according to claim 1, wherein said image is a natural image.

20. (previously presented) A method according to claim 1, wherein said image set includes the original image.

21. (cancelled)

22. (currently amended) Apparatus for ~~recognising~~ recognizing an image, the apparatus comprising:

- a. processing means arranged to process the image to provide a plurality of different processed images which are derived from the original image to be recognized;
- b. combining means arranged to combine the processed images;
- c. reducing means arranged to reduce the data space occupied by the processed images;
- d. generating means arranged to generate from the combined and reduced processed images an image key representative of the image; and

- e. comparison means arranged to compare the image key with at least one previously stored image key of a known image.
23. (cancelled)
24. (cancelled)
25. (currently amended) A method of ~~recognising~~ recognizing an three-dimensional image, comprising the steps of utilizing a computer or processor to:
- a. ~~transforming~~ transform the data space occupied by ~~the~~ a three dimensional image using Fisher's Linear Discriminant Analysis;
  - b. ~~generating~~ generate, from the transformed data space, an image key representative of the image; and
  - c. ~~comparing~~ compare the image key with at least one previously stored image key of a known image.
26. (currently amended) Apparatus for ~~recognising~~ recognizing a three-dimensional image, the apparatus comprising:
- a. means for transforming the data space occupied by ~~the~~ a three dimensional image using Fisher's Linear Discriminant Analysis;
  - b. means for generating, from the transformed data space, an image key representative of the image; and
  - c. means for comparing the image key with at least one previously stored image key of a known image.
27. (new) Apparatus according to claim 22, wherein said processing means is arranged to extract image features including at least one of edges, lines, wavelets, gradient components, curvature components and colour components.

28. (new) Apparatus according to claim 22, wherein said reducing means is arranged to reduce said data space after said combining means combines said processed images.
29. (new) Apparatus according to claim 22, wherein said reducing means is arranged to reduce said data space before said combining means combines said processed images.
30. (new) Apparatus according to claim 22, wherein said comparison means is arranged to compare the image key with just one previously stored image key, to verify the identity of the image.
31. (new) Apparatus according to claim 22, wherein said comparison means is arranged to compare the image key with a plurality of previously stored image keys, to identify the image.
32. (new) Apparatus according to claim 31, further comprising sorting means arranged to sort results from said comparison means to produce a list of potential matches with previously stored image keys.
33. (new) Apparatus according to claim 31, wherein said comparison means is arranged to carry out a comparison using a Euclidean distance metric (the L<sub>2</sub> norm), mahalanobis distance metric or a cosine distance metric.
34. (new) Apparatus according to claim 22, further comprising normalising means arranged to normalise data prior to combination of the data by said combination means.
35. (new) Apparatus according to claim 22, further comprising a camera that is arranged to provide said image to be recognised.
36. (new) Apparatus according to claim 22, arranged to process 3D image data.
37. (new) Apparatus according to claim 22, arranged to process 2D image data.

38. (new) Apparatus according to claim 22, arranged to process an image that comprises a registered 2D-3D image pair.

39. (new) Apparatus according to claim 22, wherein said reducing means is arranged to carry out a Principal Component Analysis method.

40. (new) Apparatus according to claim 22, wherein said reducing means is arranged to carry out a Fisher's Linear Discriminant Analysis method.

41. (new) Apparatus according to claim 22, arranged to process an image of a face.

42. (new) Apparatus according to claim 22, arranged to process an image of a human face.

43. (new) Apparatus according to claim 22, arranged to process a natural image.

44. (new) Apparatus according to claim 22, wherein one of said processed images includes the original image.